

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. 2003-NE-33-AD; Amendment 39-13351; AD 2003-22-04]**

**RIN 2120-AA64**

### **Airworthiness Directives; Rolls-Royce plc RB211-524 Series Turbofan Engines**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule; request for comments.

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**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for Rolls-Royce plc (RR) RB211-524 series turbofan engines with certain part number (PN) and serial number (SN) low pressure (LP) compressor fan blades installed. This AD requires inspection of certain LP compressor fan blade roots and replacement or repair of blades if damage is not within acceptable limits. This AD is prompted by the discovery of damaged LP compressor fan blade roots resulting from entrapment of ceramic polishing media between the blade roots and the masking boot during blade root repair. We are issuing this AD to prevent possible uncontained multiple LP compressor fan blade release, and damage to the airplane.

**DATES:** Effective November 12, 2003. The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of November 12, 2003. We must receive any comments on this AD by December 29, 2003.

**ADDRESSES:** Use one of the following addresses to submit comments on this AD:

- *By mail:* The Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, Attention: Rules Docket No. 2003-NE-33-AD, 12 New England Executive Park, Burlington, MA 01803-5299.
- *By fax:* (781) 238-7055.
- *By e-mail:* 9-ane-adcomment@faa.gov

You can get the service information referenced in this AD from Rolls-Royce plc, PO Box 31, Derby, England; telephone: International Access Code 011, Country Code 44, 1332-249428, fax International Access Code 011, Country Code 44, 1332-249223.

You may examine the AD docket, by appointment, at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA. You may examine the service information, by appointment, at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** James Lawrence, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7176; fax (781) 238-7199.

**SUPPLEMENTARY INFORMATION:** The Civil Aviation Authority (CAA), which is the airworthiness authority for the United Kingdom (UK), recently notified the FAA that an unsafe condition may exist on certain RR RB211-524 series turbofan engines. The CAA received reports of LP compressor fan blade root damage due to entrapment of ceramic polishing media between the blade roots and masking boots while doing RR Repair Scheme FRS5712, subtask 72-31-11-380-119.

### **Relevant Service Information**

We have reviewed and approved the technical contents of Rolls-Royce plc Mandatory Service Bulletin (MSB) No. RB.211-72-D184, Revision 3, dated December 20, 2002, that provides procedures for inspection of blade roots of LP compressor fan blades that were repaired using RR Repair Scheme FRS5712, subtask 72-31-11-380-119, and replacement or repair of blades if damage is not within acceptable limits. The CAA classified this service bulletin as mandatory and issued AD 005-04-2001 in order to ensure the airworthiness of these Rolls-Royce plc engines in the UK.

### **Bilateral Airworthiness Agreement**

This engine model is manufactured in the UK and is type certificated for operation in the United States under the provisions of section 21.29 of the Federal Aviation Regulations (14 CFR 21.29) and the applicable bilateral airworthiness agreement. Under this bilateral airworthiness agreement, the CAA has kept the FAA informed of the situation described above. We have examined the findings of the CAA, reviewed all available information, and determined that AD action is necessary for products of this type design that are certificated for operation in the United States.

### **FAA's Determination and Requirements of This AD**

Although no airplanes that are registered in the United States use these RR RB211-524 series turbofan engines, the possibility exists that these engine models could be used on airplanes that are registered in the United States in the future. The unsafe condition described previously is likely to exist or develop on other engines of the same type design. We are issuing this AD to prevent possible uncontained multiple LP compressor fan blade release, and damage to the airplane. This AD requires inspection of blade roots of LP compressor fan blades that were repaired using RR Repair Scheme FRS5712, subtask 72-31-11-380-119, and replacement or repair of blades if damage is not within acceptable limits. The inspections are to be performed by following a compliance schedule based on engine model and cycles accumulated.

You must use the service information described previously to perform the actions required by this AD.

## **FAA's Determination of the Effective Date**

Since there are currently no domestic operators of this engine model, notice and opportunity for public comment before issuing this AD are unnecessary. Therefore, a situation exists that allows the immediate adoption of this regulation.

## **Changes to 14 CFR Part 39—Effect on the AD**

On July 10, 2002, we issued a new version of 14 CFR part 39 (67 FR 47997, July 22, 2002), which governs our AD system. This regulation now includes material that relates to special flight permits, alternative methods of compliance, and altered products. This material previously was included in each individual AD. Since this material is included in 14 CFR part 39, we will not include it in future AD actions.

## **Comments Invited**

This AD is a final rule that involves requirements affecting flight safety and was not preceded by notice and an opportunity for public comment; however, we invite you to submit any written relevant data, views, or arguments regarding this AD. Send your comments to an address listed under ADDRESSES. Include "AD Docket No. 2003-NE-33-AD" in the subject line of your comments. If you want us to acknowledge receipt of your mailed comments, send us a self-addressed, stamped postcard with the docket number written on it; we will date-stamp your postcard and mail it back to you. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify it. If a person contacts us verbally, and that contact relates to a substantive part of this AD, we will summarize the contact and place the summary in the docket. We will consider all comments received by the closing date and may amend the AD in light of those comments.

We are reviewing the writing style we currently use in regulatory documents. We are interested in your comments on whether the style of this document is clear, and your suggestions to improve the clarity of our communications with you. You may get more information about plain language at <http://www.faa.gov/language> and <http://www.plainlanguage.gov>.

## **Examining the AD Docket**

You may examine the AD Docket (including any comments and service information), by appointment, between 8 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays. See ADDRESSES for the location.

## **Regulatory Findings**

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the regulation:

1. Is not a "significant regulatory action" under Executive Order 12866;
2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
3. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a summary of the costs to comply with this AD and placed it in the AD Docket. You may get a copy of this summary by sending a request to us at the address listed under ADDRESSES. Include "AD Docket No. 2003-NE-33-AD" in your request.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

#### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

# AIRWORTHINESS DIRECTIVE



Aircraft Certification Service  
Washington, DC

U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

*We post ADs on the internet at "www.faa.gov"*

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

**2003-22-04 Rolls-Royce plc:** Amendment 39-13351. Docket No. 2003-NE-33-AD.

## Effective Date

- (a) This airworthiness directive (AD) becomes effective November 12, 2003.

## Affected ADs

- (b) None.

## Applicability

(c) This AD applies to Rolls-Royce plc (RR) RB211-524G2-19, -524G2-T-19, -524G3-19, -524G3-T-19, -524H2-19, -524H2-T-19, -524H-36, and -524-H-T-36 turbofan engines with low pressure (LP) compressor fan blades part numbers (PNs) and serial numbers (SNs) as listed in Table 1 of RR Mandatory Service Bulletin (MSB) No. RB.211-72-D184, Revision 3, dated December 20, 2002, installed. These engines are installed on, but not limited to, Boeing 747 and 767 series airplanes.

## Unsafe Condition

(d) This AD was prompted by the discovery of damaged LP compressor blade roots resulting from entrapment of ceramic polishing media between the blade roots and the masking boot during blade root repair. We are issuing this AD to prevent possible uncontained multiple LP compressor fan blade release, and damage to the airplane.

## Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified unless the actions have already been done.

## Reworked LP Compressor Fan Blades Not Affected

(f) LP compressor fan blades listed in Table 1 of RR MSB No. RB.211-72-D184, Revision 3, dated December 20, 2002, that have been reworked using Service Bulletin (SB) No. RB.211-72-D051, dated August 23, 2000, or SB No. RB.211-72-D020, dated April 19, 2000, are considered to have had all damage addressed during rework and are not affected by this AD.

## Removal and Inspection of LP Compressor Fan Blades

(g) Using the compliance thresholds in Table 1 of this AD, remove LP compressor fan blades and inspect the blade roots of all LP compressor fan blades listed by PN and SN in Table 1 of RR MSB No. RB.211-72-D184, Revision 3, dated December 20, 2002. Follow the inspection criteria in paragraph 3.B. of the Accomplishment Instructions of RR MSB No. RB.211-72-D184, Revision 3, dated December 20, 2002.

**TABLE 1.—LP COMPRESSOR FAN BLADE INSPECTION COMPLIANCE THRESHOLDS**

<b>Engine models</b>	<b>Compliance thresholds</b>
(1) RB211-524G2-19, -524G2-T-19, -524G3-19, -524G3-T-19, -524H-36, -524H-T-36.	(i) For blades exceeding 2,000 cycles-since-incorporation of RR Repair Scheme FRS5712, subtask 72-31-11-380-119, before further flight. (ii) For blades with fewer than 2,000 cycles-since-incorporation of RR Repair Scheme FRS5712, subtask 72-31-11-380-119, before accumulating 2,000 cycles-since-incorporation of the Repair Scheme.
(2) RB211-524H-36 and RB211-524-H-T-36 Engines on Short Haul Operation Airplanes.	Before further flight.
(3) RB211-524H2-19 and -524H2-T-19	Before accumulating 800 cycles-since-incorporation of RR Repair Scheme FRS5712, subtask 72-31-11-380-119, or before December 2005, whichever occurs sooner.
(4) RB211-524H-36 and RB211-524-H-T-36 Engines On Long Haul Operation Airplanes.	Before accumulating 870 cycles-since-incorporation of RR Repair Scheme FRS5712, subtask 72-31-11-380-119, or before December 2005, whichever occurs sooner.

## Removal From Service or Repair of LP Compressor Fan Blades That Do Not Pass Inspection

(h) Remove from service LP compressor fan blades that do not pass the inspection criteria in paragraph 3.B. of the Accomplishment Instructions of RR MSB No. RB.211-72-D184, Revision 3, dated December 20, 2002, or repair blades. Follow paragraph 3.B.(3)(b) of the Accomplishment Instructions of RR MSB No. RB.211-72-D184, Revision 3, dated December 20, 2002 to repair blades.

## Prohibition of LP Compressor Fan Blades Not Inspected or Repaired

(i) After the effective date of this AD, do not install any blade that was removed as specified in paragraph (g) of this AD, unless the blade has passed inspection or has been repaired using paragraph 3.B. of the Accomplishment Instructions of RR MSB No. RB.211-72-D184, Revision 3, dated December 20, 2002.

## Definition

(j) For the purpose of this AD, a Long Haul Operation is defined as an operation with an average stage length of more than five hours.

## **Alternative Methods of Compliance**

(k) The Manager, Engine Certification Office, has the authority to approve alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

## **Material Incorporated by Reference**

(l) You must use Rolls-Royce MSB No. RB.211-72-D184, Revision 3, dated December 20, 2002, to perform the blade inspection and repair required by this AD. The Director of the Federal Register approved the incorporation by reference of this service bulletin in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You can get a copy from Rolls-Royce plc, PO Box 31, Derby, England; telephone: International Access Code 011, Country Code 44, 1332-249428; fax International Access Code 011, Country Code 44, 1332-249223. You may review copies at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, DC.

## **Related Information**

(m) CAA airworthiness directive 005-04-2001, dated April 20, 2001, also addresses the subject of this AD.

Issued in Burlington, Massachusetts, on October 20, 2003.  
Jay J. Pardee,  
Manager, Engine and Propeller Directorate, Aircraft Certification Service.  
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